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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,494	12/19/2000	Kendell A. Chilton	EMC00-20(00124)	5725

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04/20/2004

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EXAMINER

BRAGDON, REGINALD GLENWOOD

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,494

Applicant(s)

CHILTON, KENDELL A.

Examiner

Reginald G. Bragdon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement(s) received 05 January 2004 has been considered.

Please see the attached PTO-1449(s).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Steinmetz et al. (6,425,034).

As per claims 1, 11, and 21, Steinmetz et al. teaches a fibre channel system including a host bus adapter 182 (figure 4; "interface") connected through a fibre channel FC 188 to a disk array controller 200 (figure 6; "volatile cache memory circuit") which includes a cache memory 210. The FC 188 represents a point-to-point channel between the host bus adaptor and the disk array controller. Shown in figures 3A and 3B are the read and write process between an initiator and target using the fibre channel protocol. An initiator (e.g. host through host bus adapter 182) sends a command to the target (e.g. cache of disk array controller 200). Data is transmitted between the initiator and target, the direction of data transmission depending upon whether the

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operation is a read or a write. Finally, status information is returned via a FCP_RSP sequence.

See column 7, line 59, to column 8, line 16.

As per claims 2-4, 12-14, and 22-24, the fibre channel protocol includes unidirectional links as shown in figure 1B. All information passing from the host adapter to the disk array controller would pass through one set of wires (e.g. a command through the transmit wires) and all information passing from the disk array controller to the host adapter (e.g. status) would pass through the other set of wires (e.g. receive wires).

As per claims 5, 15, and 25, Steinmetz et al. teaches that the fibre channel protocol transmits data in units of frames. As shown in figure 2, the frames (for both reads and writes) include synchronization delimiters, such as "start-of-frame" and "end-of-frame".

As per claims 6, 16, and 26, Steinmetz et al. teaches that the fibre channel protocol transmits data in units of frames. As shown in figure 2, the frames (for both read and writes) includes CRC error check information.

As per claims 7, 17, and 27, Steinmetz et al. teaches read and write transactions as detailed above. Steinmetz et al. further teaches encoding the frames using the 8B/10B encoding/decoding scheme. See column 33, lines 20-38.

As per claims 8, 18, and 28, Steinmetz et al. teaches a busy signal at column 30, lines 1-2.

As per claims 9, 19-20 and 29, Steinmetz et al. teaches sending a frame header including an exchange identifier ("tag"). See column 6, lines 58-62.

As per claims 10 and 20, Steinmetz et al. teaches partitioning the sequence of read data if the data is larger than a frame. See column 7, lines 65-67. The multiple frames would be recombined at the host adapter ("processing the read data element").

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As per claim 30, the claim is rejected for the reasons set forth above for claim 1.

Furthermore, with reference to figure 22, Steinmetz et al. teaches the fibre channel controller which includes a host system interface ("first adapter"), inbound frame buffer unit ("second adapter"), and an inbound sequence & exchange management unit ("controller").

As per claim 31, the claim is rejected for the reasons set forth above for claim 1.

Furthermore, with respect to figure 6, Steinmetz et al. teaches an FC controller 206 ("adapter"), cache memory 210 ("memory locations"), and a microprocessor ("controller").

As per claims 32-33, 36-37, 39 and 41-42, Steinmetz et al. teaches transmitting and receiving multiple frames (see figure 3B, where A=1 and N=2).

As per claims 34-35, 38, and 40, Steinmetz et al. teaches sending a frame header including an exchange identifier ("tag"). See column 6, lines 58-62.

Response to Arguments

4. Applicant's arguments filed 05 January 2004 have been fully considered but they are not persuasive.

With respect to Applicant's arguments concerning the Steinmetz et al. reference (pages 22-23 of the response), Applicant argues that the FC 188 does not teach a point-to-point channel connecting the interface circuit and the volatile cache memory. However, figure 4 of Steinmetz et al. shows FC 188 connected to the interface circuit. Figure 6 shows the FC connected to the disk array controller 200, which includes a volatile cache 210.

The Examiner notes that the language of the independent claims sets forth that a command is provided to the cache through a point-to-point interface. The language does not set

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forth that the cache is directly coupled to the interface over a point-to-point channel, as Applicant appears to be arguing.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any response to this final action should be mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

All "OFFICIAL" patent application related correspondence transmitted by FAX must be directed to the central FAX number at (703) 872-9306:

"INFORMAL" or "DRAFT" FAX communications may be sent to the Examiner at (703) 746-5693, only after approval by the Examiner.

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA., Fourth Floor (receptionist).

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reginald G. Bragdon whose telephone number is (703) 305-3823. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and every other Friday from 7:00 AM to 3:30 PM.

The examiner's supervisor, Mano Padmanabhan, can be reached at (703) 306-2903.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

RGB
April 18, 2004

Reginald G. Bragdon
Reginald G. Bragdon
Primary Patent Examiner
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